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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,740	10/19/2001	Eric Streicher	016499-802	6125

7590

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EXAMINER

COLAIANNI, MICHAEL

ART UNIT

PAPER NUMBER

1731

DATE MAILED: 06/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

### Application No.

09/981,740

### Applicant(s)

STREICHER ET AL.

### Examiner

Michael P Colaianni

### Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 9, 11, 12, 14, 16, 17-19, 22-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Plumat 2838881.

Plumat teaches a method for making glass beads by firing an air fuel burner in a shaft furnace to thereby drawing air into the shaft (Fig. 2, ref. no. 4); adding raw material to the furnace (Fig. 10, ref. no. 10, 9); and adding oxidant via a single lance, multiple lances, a lance incorporated in an air fuel burner or an oxidant injection ring (Fig. 2, ref. no. 11, 4, 6, 6'); the ring of air inlets serve as both a single lance, multiple lances, an oxidant injection ring. Also, the side air ports 6 and 6' for the burner serve as oxidant injection lances with an air burner.). Plumat teaches adding air as the oxidant (col. 5, lines 18-21). This satisfies applicant's definition of oxidant given on page 5, paragraph 0025 which, states that oxidant includes non-pure oxygen which includes oxidants having an oxygen content greater than 21%, because air has a weight percent of 23% oxygen.

Plumat also teaches that oxidant is injected upward along the center of the furnace (Fig. 2, ref. no. 11, 1).

Plumat also teaches that the lances are at an angle to the vertical axis of the furnace (Fig. 2, ref. no. 11 and 1).

Plumat also teaches that the oxidant ring has a ratio to the furnace diameter of 0.2 to 0.9 (Fig. 2, ref. no. 11, 1).

Plumat also teaches the claimed apparatus. Plumat's respective teachings with regard to the apparatus claims are as noted above with respect to the corresponding method claims.

Claims 17-18, 22, 25-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Palmer 2958161.

Palmer teaches a vertical glass furnace having an shaft with an interior space open at the bottom (Fig. 1, ref. no. 12, the fact that glass is pouring out of the cylinder 12 means that the cylinder is "open"); an air fuel burner (Fig. 1, ref. no. 59, 60, 61); a raw material addition device (Fig. 1, ref. no. P, 17, 18, 19, 31, 20); and an oxidant addition including a single lance, multiple lances and an oxidant ring (Fig. 1, ref. no. 62, the figure shows multiple lances encircling the furnace to form the "oxidant ring" and/or the multiple lances).

Palmer also teaches that the that the ratio of the outer diameter of the oxidant ring to an interior diameter of the furnace is 0.2-.09 (Figure 1, ref. no. 61, 62, the holes 62 that for the oxidant ring extend to the insulation 54. However the interior diameter may be measured from the area where the insulation 54 meets the interior insulation 53 which would make the ratio of the diameters fall within the claimed range).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Plumat 2838881 in view of Potters 2619776.

Plumat teaches applicant's claimed invention. See the §102(b) rejection above for Plumat's teachings. However, Plumat does not teach the claimed equivalence ratio.

However, Potters teaches that it is known to use an equivalence ratio of 1.0 (col. 3, lines 56-60, the carbon-free combustion means that the fuel and oxidant are mixed such that the flame stoichiometry (equivalence) ratio is 1.0).

It would have been prima facie obvious at the time the invention was made to combine Potters' equivalence ratio with Plumat's method of making glass beads because doing so would prevent carbon formation which would coat/contaminate the beads producing an undesirable product.

Claims 5, 10, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Plumat 2838881.

Plumat teaches applicant's claimed invention. See the §102(b) rejection for Plumat's teachings. However, Plumat does not explicitly teach the claimed oxidant velocities.

However, Plumat does teach that it is known to control the velocity of the issuing air (oxidant) to control the suspension of the beads in the furnace (col. 5, lines 65-70, col. 6, lines 13-17).

It would have been prima facie obvious at the time the invention was made to use the claimed velocities for the oxidant with Plumat's method of making glass beads because Plumat teaches that it is known to control the velocity to achieve the desired bead suspension and solidification.

Claims 6-8, 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Plumat 2838881 in view of Brahmbhatt et al. 5611833.

Plumat teaches applicant's claimed invention. See the §102(b) rejection for Plumat's teachings. However, Plumat does not teach using an oxy-fuel burner or the claimed flame stoichiometry.

However, Brahmbhatt et al. teach that it is well known in the glass bead forming art to use an oxy-fuel flame (Fig. 1, ref. no. 11). Brahmbhatt et al. also teach that it is important to have flame stoichiometry of 2:1 which is within applicant's claimed range (col. 5 lines 10-16). Also, Brahmbhatt et al. teaches that the burner is directed upwardly in the shaft (Fig. 1, ref. no. 11) as does Plumat (Fig. 2, ref. no. 4).

It would have been prima facie obvious at the time the invention was made to combine Brahmbhatt et al.'s oxyfuel burner and stoichiometry with Plumat's method of and apparatus for making glass beads because doing so would permit the beads to manufactured at a much quicker pace and would reduce the chance for contamination due to carbon formation because the oxy-fuel burner burns more cleanly and hotter than its air fuel counterpart. This would result in a faster processing time and less contaminants being produced.

### ***Claim Objections***

Claim 17 is objected to because of the following informalities: line 3, "so" should be changed to --to--. Appropriate correction is required.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P Colaianni whose telephone number is 703-305-5493. The examiner can normally be reached on Monday to Thursday and alternate Fridays from 9:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 703-308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7115 for regular communications and 703-872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



Michael P Colaianni  
Primary Examiner  
Art Unit 1731

MPC  
June 19, 2003

**MICHAEL COLAIANNI**  
**PRIMARY EXAMINER**